National NEMO Network

Winter/Spring 2007 Newsletter
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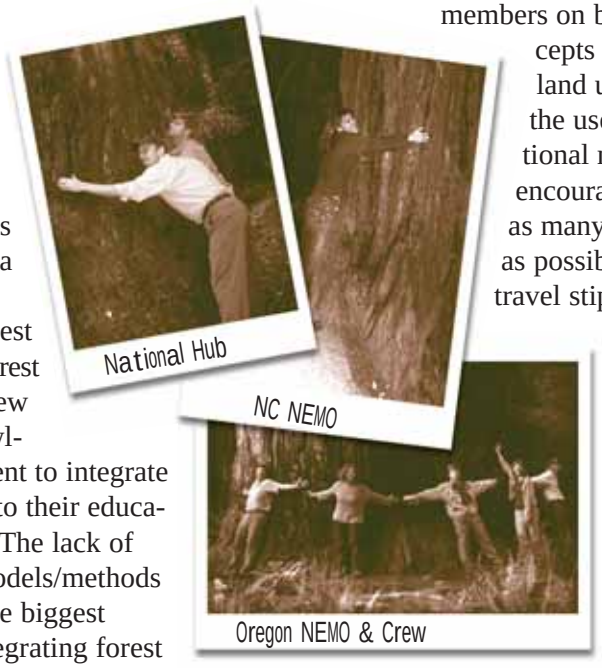
FREMO! (Forest Resources Education for Municipal Officials)

As many of you know, the Network Hub is partnering with the USDA CSREES Forestry Program and the U.S. Forest Service to integrate forest cover and forest resource issues into NEMO educational programs. Similar to the Open Space Planning project that only grizzled NEMO veterans are likely to remember, FREMO will lead to the development of new educational materials and wiz-bang tools for adaptation and adoption by interested Network programs.

From slowing runoff, to filtering pollutants, to preventing erosion, the nation's forests protect water quality. In addition, forests provide habitat for fish and wildlife, recreational opportunities, and economic resources. However, the ability of the nation's forests to provide these services is threatened by the conversion of forest lands to housing and other development, the fragmentation of forest systems, and the parcelization into small tracts managed by numerous individual owners.

By and large, most forestry education efforts throughout the country have focused on individual landowners. However, it has become increasingly apparent that there is a need to also educate local land use decision makers about the importance of the forest resource in land use planning. Since educating local officials is what NEMO is all about, the FREMO effort seems a logical fit.

After announcing the initiative at *Cinco de NEMO*, the Hub conducted a survey of the Network to get a sense of the current levels of knowledge, interest, and integration of forest resource issues into NEMO programming. In general, the responses indicate a strong interest in the effort. And, while most NEMOids feel they have a decent understanding of forest resource and forest cover issues, few feel their knowledge is sufficient to integrate these issues into their educational arsenal. The lack of educational models/methods was cited as the biggest obstacle to integrating forest issues into NEMO.



Tree huggers of the Network, Unite!

Whether as a result of pure luck, savvy survey design or fleeting omnipotence, the survey results fit perfectly with our plan for year one of the project. In collaboration with forestry experts from around the Network and elsewhere, we are developing new educational materials that integrate forests into NEMO's mantra of *natural resource-based planning*. In September, we will hold a FREMO workshop for Network members on basic forestry concepts as they relate to land use planning, and the use of the new educational materials. To help encourage participation by as many NEMO programs as possible, a number of travel stipends will be available (more on this soon via the listserve).

Should we be able to induce our wonderful federal partners to continue funding this effort in future years, we plan to help catalyze new forested NEMO efforts through mini-grants and collaborations with Extension foresters. In addition, to help enhance our message we will seek to train NEMO programs in the use of several emerging geospatial tools that can help to both analyze and visualize tree cover and forest fragmentation.

In This Issue

Program Spotlight NEMO Nevada

NEMO Nevada Program Goals

- Educate decision makers, developers and homeowners on nonpoint source pollution (NPS) and the tie between impervious surfaces and NPS
- Promote informed, responsible, resource-based planning/land-use decisions
- Revise ordinances in conflict with low impact development practices
- Maintain the existing, good drinking water quality
- Reduce overall pollution loading to the river
- Reduce or maintain nonpoint pollution loads.

NEMO Nevada supported a project to include four filter boxes in downtown Reno.

Yes, it does rain in the desert

- Article by Susan Donaldson, Nevada NEMO Coordinator

During the past 30 years, tremendous growth has occurred in western Nevada. From 2000 to 2005 alone, Nevada grew 20.8%, and, despite water limitations, there's no end in sight. New estimates by the Nevada State Demographers Office suggest that from 2005 to 2026, Washoe County's population will grow 48%; Douglas County, by 32%; and Lyon County by 84%.

We all know the consequences of increased growth: more impervious cover, less infiltration, increased and earlier peak flows, increased pollutant loading, etc. What's different about our high-desert climate, however, is our pattern of precipitation. In most years, we receive less than 8 inches of precipitation, with most of that coming during winter months. It is not uncommon for several months to pass without measurable precipitation. The next runoff event can be extremely high in concentrations of urban pollutants. At the same time, in-stream flows are at their lowest by late summer or early fall, resulting in problems in achieving TMDLs (total maximum daily load).

Found out of compliance with its Phase I permit in 2002, the Truckee Meadows area (Reno/Sparks/Washoe County) was struggling to address deficits in stormwater management, and a NEMO program was a logical outcome. With funding from Nevada Division of Environmental Protection and University of Nevada Cooperative Extension, the NEMO Nevada program was launched with a workshop by our fearless leaders, Chet Arnold and John Rozum in fall 2003. The program has a number of goals (see text in left column) and is led by a planning group that meets quarterly.

We soon discovered that the education delivery model applied in Connecticut would have to be altered to fit Nevada. We have 17 counties and no municipalities, and planning is done on a county or state basis with varying levels of input. In Washoe County, there are a variety of boards and commissions providing input on development, and in addition to targeting these many groups, we soon figured out that we also needed to reach Community Development staff, landscape architects and installers, engineers and private planners.

In Nevada's climate, the goals are the same but the approach is different. For example, rangeland soils are highly erodible, and stormwater BMPs are often incorrectly installed or absent (as shown above).

Our "Basic NEMO" training consists of a 3-hour workshop on nonpoint source pollutants and sources related to specific land uses; the effects of urbanization on the water cycle; water quality laws and regulations such as TDMLs; impacts of urbanization on waterways; and strategies for coping with polluted runoff, with a focus on low impact development. Free workshops are offered in spring and fall, and advertised by direct mailing to the target audience and via email and the NEMO Nevada website. We provide a binder of information that includes a checklist of questions to ask when reviewing developments.

In 2005, we expanded the program to Douglas County. Presently, our focus includes expansion to the rapidly-growing communities of Fernley and Dayton, which lack an organized planning structure. We continue to videoconference the trainings to remote locations, including Elko and Lyon Counties in March 2007. To date, a total of 15 three-hour Water Quality Workshops (Basic NEMO) have been provided. We've also

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Around the Network

▶ CT NEMO's New CRI Website

The CT stateside NEMO Team released the Online Community Resource Inventory (CRI) this winter, a new web-based tool that allows users to take the first step in integrating natural resources into land use planning. The CRI provides access to a series of key natural resource maps, including water resources, land cover, protected open space, and wetland and farmland soils, in additional to cultural resources such as roads and utilities. You can check out the tool on the NEMO website: **http://nemo.uconn.edu/tools/cri**

CT NEMO and the Hub are now collaborating with the NEMO and Geospatial Technology Programs in Rhode Island to further improve the tool, as well as franchise it in the Ocean State. In doing so, we hope to create a cookbook of sorts to help other interested members of the Network develop similar sites of their own, with Minnesota and South Carolina already agreeing to be the first guinea pigs. If that doesn't work, Plan "B" is to get a whopping National Science Foundation grant to clone CT NEMO's Emily Wilson, the chief architect of the CRI site.

The new CT NEMO CRI website includes a Build Your CRI page. The land cover map for the town of Farmington, CT is shown above.

▶ New NEMO Websites Launched in New Hampshire and Pennsylvania

The NEMO programs in New Hampshire and Pennsylvania have both launched new websites for their programs. The Natural Resource Outreach Coalition (NROC) (a.k.a NH NEMO) site provides overall program information, as well as detailed examples of what different communities have done. The NROC site can be found at: **http://extension.unh.edu/CommDev/NROC/CANROC.cfm.**

The PA Lake Erie NEMO program site also features program information and project highlights, as well as geospatial data for the major watersheds in their target area. The PA Lake Erie site can be found at: **http://seagrant.psu.edu/nemo/**

▶ New and Transplanted NEMO Educators

The NY and CT NEMO programs have both added new staff to their teams, while CA plucked a high-profile free agent from the OH NEMO program. In NY, Eileen Keenan added Jeanne Brown to the NY NEMO team. Jeanne is a veteran of the Peace Corps with a background in Marine Policy and Biology. Likewise the CT program bolstered its biological prowess in hiring Dr. Juliana Barrett, an ecologist and evolutionary biologist. Juliana will help CT NEMO expand its educational assistance in coastal areas. And finally, the California Center for Water & Land Use managed to lure Dr. Timothy Lawrence away from the Ohio the Water and Land Use Partnership (WALUP). Details of the deal were not released, but it has been widely speculated that Dr. Lawrence's interest in frolicking with the playful sea otter played a prominent role in the negotiations. Ohio's former bench coach, Jon Witter has taken over the NEMO reins back in Ohio.

Keep Your Eye on This One: An Impervious Cover-Based TMDL

In April, EPA Headquarters approved the first impervious cover-based TMDL (total maximum daily load) in the nation, one written by Connecticut Department of Environmental Protection (CT DEP) for Eagleville Brook in Mansfield, CT. As all NEMOids know, a TMDL establishes the maximum amount of a pollutant that a waterbody can receive without adverse impact to fish, wildlife, recreation or other uses. Until now, all TMDL goals have been expressed as pollutant concentrations, percent reductions in pollutant levels or reductions in mass loads.

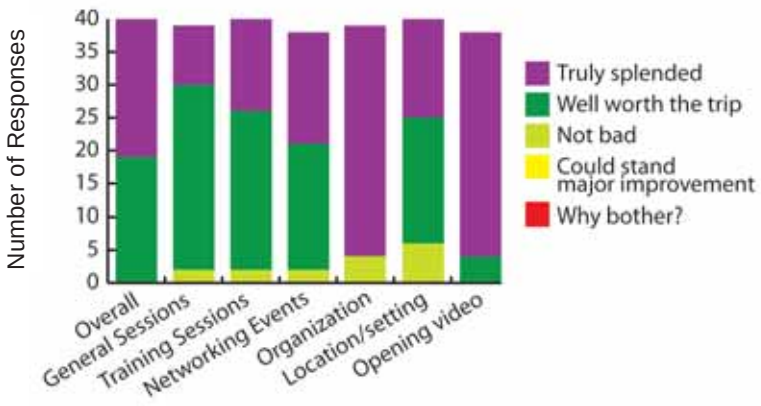
Now there is a new option, based on a collaboration between NEMO and CT DEP. As described at *Cinco de NEMO*, CT DEP compared their long-term macroinvertebrate faunal assemblage data for 125 streams to estimates of impervious cover (IC) in the upstream drainages, as estimated by the Impervious Surface Analysis Tool (ISAT) of NOAA CSC/NEMO fame. The study discovered a clear "threshold" effect at approximately 12% impervious cover: above this threshold no streams met Connecticut's aquatic life criteria for healthy streams. Based on this analysis, CT DEP believes that 12% IC is a defensible and useful basis for a TMDL in areas with complex and unspecified urbanization-related water quality problems. NEMO and CT DEP staff are discussing a project that would have two goals: (1) to assist the regulated entities respond to the TMDL via retrofits and low impact development, and; (2) to document the process as an example for other communities that might face an IC-based TMDL.

Stay tuned. A complete copy of the TMDL, which includes an appendix with the macroinvertebrate study, can be found on the CT DEP website at: www.ct.gov/dep/lib/dep/water/tmdl/tmdl_final/eaglevillefinal.pdf

New & Noteworthy

Cinco de NEMO: The Reviews are In!

From the standpoint of those of us here at the Network Hub, *Cinco de NEMO* was extremely successful. Folks seemed to enjoy themselves, the formal sessions were lively, the informal sessions were livelier, there was a lot of networking going on, and no one got hurt. More important, based on the responses to our online evaluation form you all thought the conference was helpful, which of course is the whole point. And most important, the Opening Video and Conference Organization scored the highest, which we take as sign that you haven't gotten (too) tired of the Hub yet. A few telling charts are included below—please go to the Secure (members only) section of the website for more results.



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sponsored two seminars by Jane Wenk of Wenk Associates to address questions about the economics of low impact development (LID) and to provide information for local landscapers at their annual conference. Other groups who receive training include Master Gardeners and University students.

NEMO graduates have provided examples of the application of NEMO information in their official capacities. Citizens Advisory Board members queried developers about the use of low impact development practices and now feel better prepared to ask questions of applicants. Washoe County planning staff required infiltration best management practices, incorporated the workshop information into the design of parking lots, and made suggestions to developers. A nursery worker used the information in designing and planning medium-size residential landscape projects, and a landscaper became more conscious of the problem of excessive irrigation water use. After review by NEMO Nevada, the Douglas Co. Draft Design Standards and Washoe County Comprehensive Plan's Conservation Element incorporated LID and stormwater protection.

The ultimate goal of the program is to increase the implementation of LID projects for stormwater infiltration and water quality improvement. To that end, NEMO sponsored a demonstration project at the University of Nevada, Reno at a new student union building. The project incorporates infiltration via a swale and porous pavement, and eliminated one catch basin. The NEMO program also supported a project to incorporate infiltration into tree filter boxes as part of downtown renovation. Several other projects are in the planning stages.

For more information visit the NEMO Nevada website at ***www.unce.unr.edu/NEMO.***

Our Favorite Pie: The Ultimate Barometer of NEMO U Success

Did you gain any knowledge, insight, information, materials or other benefits from Cinco de NEMO that will help you with your NEMO program at home?

Our Favorite General Praise/Kiss-up to the Hub:

"I think the NEMO conference is consistently the most beneficial conference I attend. The pragmatic approach taken by individual programs sparks many ideas on how I can approach issues in my own state. The trainings are top rate and the ability to network with the great group of people is awesome. THANKS!!!"

National NEMO Network

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